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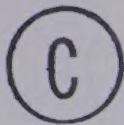
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THE ROLE OF PRESTIGE, APTITUDE, AND SCHOOL ACHIEVEMENT
IN THE SELECTION OF HIGH SCHOOL PROGRAMS AND
OCCUPATIONAL PREFERENCES BY SELECTED GRADE
NINE ALBERTA STUDENTS

by



Reginald Harold Mackley

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "THE ROLE OF PRESTIGE, APTITUDE, AND SCHOOL ACHIEVEMENT IN THE SELECTION OF HIGH SCHOOL PROGRAMS AND OCCUPATIONAL PREFERENCES BY SELECTED GRADE NINE ALBERTA STUDENTS" submitted by Reginald Harold Mackley in partial fulfilment of the requirements for the degree of Master of Education.

ABSTRACT

This study was carried out to explore the relationships existing between the following variables: school achievement, scholastic aptitude, sex, high school program selected, and occupational preferences rated on a prestige basis. The sample consisted of 158 selected Grade IX Alberta students.

Pearson product-moment correlations were computed for the total group and with the group separated on the basis of sex, level of school achievement, (High, Middle, Low), and the high school program selected. The measure of school achievement was the Arithmetic mean of five academic subjects. For scholastic aptitude, the combined Verbal and Numerical Reasoning scores on the Differential Aptitude Battery were employed. For the three occupational preferences, scores were assigned using a scale developed by Blishen.

The program selected and categories of occupations preferred by the students in the sample were compared with Alberta and Canadian students in the Career Decisions Project (1967).

Significant positive relationships were found between school achievement, scholastic aptitude, and occupational preferences rated on a prestige basis (Pearson r 's between .81 and .10). In most cases, sex, level of achievement, or high school program selected were found to have had little influence on these relationships. The three occupational preferences of the students in the sample were found to corre-

late highly with each other. These preferences were compatible with the high school program selected by the students in terms of the educational requirements recommended for entry into these occupations by education and employment officials in government and industry.

These students were different from the Alberta and Canadian students in the Career Decisions Project (1967) in that they preferred craftsman type careers and vocational programs in greater numbers.

It was concluded that the prestige of occupations influences high school program and occupational choice. Furthermore, the Blishen Scale was found to be an instrument that could be used effectively by students, parents, teachers, administrators, and counsellors in helping students select an appropriate high school program in terms of his or her occupational preference.

It was recommended that a similar study be carried out on a larger scale and that the Blishen Scale be updated. The need for longitudinal studies of the choice process was pointed out.

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DEDICATION

To

Claire

Raymond

John

Anne Marie

and

Jenny

TABLE OF CONTENTS

	Page
CHAPTER I - INTRODUCTION	1
The Problem	3
Hypotheses	4
Limitations and Delimitations	5
Assumptions	6
Definition of Terms	7
Overview of Methodology	9
CHAPTER II - REVIEW OF THE LITERATURE	12
Organization of the Chapter	12
Theories of Occupational Choice	12
Studies of Specific Influences	15
Educational and Occupational Choices	15
Readiness to Make Occupational Choices	16
Achievement and Aptitude	16
Achievement and Occupational Preferences	19
Aptitude and Occupational Preferences	19
Consistency of Preference	19
Interests	20
Prestige and Its Relationship to Occupational Choice	21
Limitations of Previous Studies	26
Summary of the Literature Review	27

	Page
CHAPTER III - METHODOLOGY	28
Introduction	28
Sample and Population	28
Data Collection	29
Instruments and Treatment of Data	30
Processing of Data	31
CHAPTER IV - FINDINGS AND DISCUSSION	34
Introduction	34
Hypothesis 1	34
Hypothesis 2	36
Hypothesis 3	39
Hypothesis 4	41
Hypothesis 5	44
Hypothesis 6	46
Hypothesis 7	48
Hypothesis 8	50
Hypothesis 9	53
CHAPTER V - SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	58
Summary	58
Findings	59
Conclusions	61
Implications and Recommendations	63
BIBLIOGRAPHY	65
APPENDIX	69

LIST OF TABLES

Table		Page
1	Correlations Between Achievement and Aptitude for Total Group and Sub-Groups	35
2	Differences in Correlations for Achievement and Aptitude Between Sub-Groups Separated by Sex, Level of Achievement, and Program Selected	37
3	Correlations Between Achievement and Preference for Total Group and Sub-Groups	38
4	Differences in Correlations for Achievement and Occupational Preference Between Sub-Groups Separated by Sex, Level of Achievement, and Program Selected	39
5	Correlations Between Aptitude and Preference for Total Group and Sub-Group	40
6	Differences in Correlations for Aptitude and Occupational Preference Between Sub-Groups Separated by Sex, Level of Achievement, and Program Selected	42
7	Correlations Between First and Second Occupational Preferences, (Consistency) for Sub-Groups Separated on the Basis of Level of Achievement	43
8	Differences in Correlations for First and Second Occupational Preferences (Consistency) Between Sub-Groups Separated on the Basis of Level of Achievement	43
9	Correlations Between First and Second Occupational Preferences (Consistency), for Sub-Group Separated on the Basis of Sex	44
10	Correlations Between First and Second Occupational Preferences, (Consistency), for Sub-Groups Separated on the Basis of High School Program Selected	45

Table		Page
11	Correlations Between First and Second Occupational Preferences, (Consistency), for Sub-Groups Separated on the Basis of High School Program Selected	46
12	Differences in Correlations for First and Second Occupational Preferences, (Consistency), Between Sub-Groups Separated on the Basis of High School Program Selected	47
13	Comparison of Relative Numbers of Albertan Students with Sample Selecting Various High School Programs Using Chi-Square	49
14	Comparison of Alberta and Sample Preferences of Occupational Categories Using Chi-Square	51
15	Comparisons of Canadian and Sample Preferences of Occupational Categories Using Chi-Square	52
16	Distribution of Students in Sample by High School Program Selected and Occupational Preference Categories (Blisshen) Indicating Compatibility of Choices	54
17	Proportions and Approximate Ratios of Incompatible to Compatible Choices According to Program Selected	55
18	Range of Blisshen Occupational Scores for Each Category	57
19	Pearson Correlations Between Achievement, Aptitude, First, Second, and Third Occupational Preference for the Total Group	70
20	Summary of Pearson Correlations for all Groups	71

CHAPTER I

INTRODUCTION

An aim of modern democracy has been the extension of educational opportunity for all citizens. As well, the technological revolution necessitated the increased supply of more highly qualified personnel in order to cope with the resultant technical and social changes.

During the 1960's the Canadian government spent hundreds of millions of dollars in providing facilities for technical and business programs at the high school and post high school level. In Alberta, there have been large increases in school enrollments. With the consolidation of schools, a large number of comprehensive and composite high schools have been built. These schools offer matriculation or university entrance, general, vocational, and combination programs. The provision for differentiated high school educational offerings to increasing numbers and kinds of students has compounded the problem of program choice for students, teachers, administrators, and parents.

The selection of appropriate high school programs and occupations by students results in the optimal utilization of school facilities and staff. Poor choices by the student could limit subsequent educational and occupational opportunities and result in a waste of time and effort. Limitations to these opportunities are provided by the educational require-

its effect on occupational choice. In the majority of cases however, these studies dealt with the status of the father's occupation and ignored the manner in which the student ranks occupations. Information is needed about the ranking of occupations and whether occupational and program choice is influenced by this ranking.

The Problem

Grade IX students in Alberta are urged to consider their school achievement, aptitudes, interests, values, and attitudes in making educational and occupational decisions (Curriculum Guide for Grade IX Group Guidance, Alberta Department of Education, 1968). In addition, the need for the student to consider educational requirements and the demand in specific occupations is pointed out.

Breton and McDonald (1967), in a study of the Career Decisions of Canadian Youth, found that half of the Alberta counsellors and teachers polled in this project felt that 25% or more of the students were in programs of study for which they were not suited.

In the same study, it was found that 54% of the students preferred professional and technical occupations although only 15.7% of the Canadian labour force were in these occupations.

The result of the selection of unsuitable high school programs and unrealistic career preferences could be failure and frustration in meeting the educational requirements for

entry into the preferred occupation. In turn, this failure could obstruct the student from embarking on other courses of action more in harmony with his values, interests, achievement, aptitude, and personality.

There is a need to know if the prestige of occupations is influencing the occupational and high school program choices of Grade IX students in Alberta. Do these students fail to give enough emphasis to school achievement and aptitude when making these choices? Is there any difference, on the basis of sex or levels of achievement, in the manner in which these choices are made? The answers to questions such as these would enable students, parents, teachers, counsellors, administrators, and others to take steps to improve these choices for the benefit of society and the individuals concerned.

This study was an attempt to determine the role of prestige, aptitude, and school achievement in the selection of high school programs and occupational preferences by selected Grade IX students. The programs selected and the occupational preferences of a group of students from Grande Prairie were compared to Albertan and Canadian groups.

The compatibility of high school program selected with occupational preference was indicated by means of a distribution table.

Hypotheses

Specifically, this study was an attempt to test the

following hypotheses:

1. There is no relationship between academic achievement and scholastic aptitude.
2. There is no relationship between academic achievement and occupational preference.
3. There is no relationship between scholastic aptitude and occupational preference.
4. There is no relationship between level of achievement and consistency of occupational preferences.
5. There is no relationship between sex and consistency of occupational preferences.
6. There is no relationship between high school program selected and consistency of occupational preferences.
7. There is no difference between the relative numbers of Albertan students and the numbers in the sample group who enroll in various high school programs.
8. There is no difference in the categories of occupations preferred by the sample group from those preferred by Albertan or Canadian students.
9. The categories of occupations chosen by the sample group are incompatible with high school programs selected.

Limitations and Delimitations

The study was confined to students from one school, Montrose Junior High in Grande Prairie and to the one investi-

gation. The variables were Grade IX achievement, high school programs, scholastic aptitude, sex, and three occupational preferences rated on a prestige basis.

No consideration was given in this study to the influence of personality factors, age, family situation, personal values, interests, influence of peers, parents, or teachers. No control group was used nor was any attempt made to randomize the sample or determine its representativeness with respect to other areas in Alberta. As an indication that Grande Prairie students were similar in achievement to other Alberta students, the annual resume of the superintendent of schools reported that Grade IX and Grade XII Departmental examination results were comparable to the provincial results in terms of the percentage of students achieving H, A, B, C, and D standings.

The study was designed to examine the relationship between prestige, aptitude, achievement, high school programs, and occupational preferences. No attempt was made to develop an equation to predict the functioning of one or more variables.

Assumptions

It was assumed that the teacher-constructed Easter tests were valid measures of Grade IX achievement.

It was assumed that independent variables operated in an unbiased manner with respect to program and occupational choice.

It was assumed that the Blishen Scale used to assign

scores to the occupational preferences was a valid and reliable instrument.

Definition of Terms

Aptitude, for the purpose of this study, was used as defined by Super (1962), as a discrete unitary characteristic which is important, in varying degrees, in a variety of occupations and activities. He noted that the aptitudes about which we know something, crystallize in childhood, and are generally relatively constant.

Achievement, for the purpose of this study, referred to the degree of mastery of school subjects as indicated by teacher marks on the Easter examinations prior to this study. The arithmetic mean of the Language, Literature, Social Studies, Mathematics, and Science marks were used.

Occupation, in this study, meant the principal activity one engages in for remuneration. Occupation was defined by Roe (1962), as the major focus of a person's activities, and usually of his thoughts.

Prestige, for the purpose of this study, referred to the differential evaluations people make about occupations in terms of the value, respect, and esteem they attach to the occupation or persons in that occupation. In a Dictionary of Sociology (1962), prestige was defined as a social position or status in public esteem attained by the social recognition one receives in his associations or in the press. Status was defined in the same source in terms of

social standing or prestige. It is sometimes vaguely, and other times well defined. Barber (1957), throughout his text, when using the term prestige in the context of occupations, referred to evaluations, rankings, and ratings by people about occupations.

Consistency, in this study, when used in relation to occupational preferences, referred to the degree to which these occupational preferences are in harmony or agreement with each other. This agreement has been defined in terms of some pre-determined criterion such as Roe's occupational levels or Blishen categories or scores.

For the purpose of this study, the work program, and specific programs were used as defined below:

Programs. Good, in the Dictionary of Education (1959, p. 416), defined a program as "a plan of procedures; all the courses in one field of study such as business education or industrial trades; organized to fill the same general objectives and conducted along similar lines".

The Matriculation Program referred to the sequence of subjects, both prescribed and optional, that would lead to the awarding of a high school diploma and entrance to an Alberta University.

The Business Program included those subjects that would lead to a high school diploma and included at least seven full subjects or the equivalent from the business field such as typing, shorthand, bookkeeping, and so on.

The General Program referred to the subjects prescribed

by the Alberta Department of Education for the issuance of a high school diploma plus any options selected to make up the minimum load requirements.

The Vocational Program consisted of approximately one-third of the subject load selected from one vocational area plus the minimum subject and load requirements prescribed for a high school diploma.

Only the matriculation program could lead to university entrance in Alberta. The business program could lead to direct employment, some junior college and institute of technology programs, and other training opportunities such as nurse's aide. The general program could lead to direct employment, apprenticeship, and training opportunities in service industries, for instance. The vocational program could lead to direct employment, apprenticeship with a reduced time requirement, some institute of technology programs on a reduced time requirement basis, and other training opportunities in industry.

Overview of Methodology

The sample consisted of 158 Grade IX students in Montrose Junior High School in Grande Prairie in May, 1965. It included all the boys and girls in the public school system in Grade IX. All students pre-registered in May for their Grade X program and the data were gathered from these pre-registration forms which included personal identification, Easter examination results, Differential Aptitude test results,

three occupational preferences, and the high school program they selected for the forthcoming year.

The arithmetic mean of the Language, Literature, Social Studies, Mathematics, and Science marks was computed to give a measure of each student's academic achievement. The scores for the Verbal Reasoning and Numerical Reasoning tests of the Differential Aptitude Battery were combined to give a measure of scholastic aptitude. The occupational preferences were assigned standard scores using a scale developed by Blishen (1958) to give a prestige rating to occupations.

The data were processed by the University I.B.M. 360/67 computer using the Desto 2 program. The output provided means, standard deviations, Pearson product-moment correlations, values of "t" and the probability of "p" associated with "t".

The data were processed in four groups to test the first six hypotheses. Correlations were calculated for the total group, and with the group separated on the basis of sex, level of achievement, (the upper and lower 27% and the middle 46%), and according to the high school program selected.

To these hypotheses seven and eight, frequency tables indicating the distribution of programs selected and occupational preferences of the sample compared to the Career Decisions samples were presented. Values of Chi Square were calculated to determine if there were any significant statistical difference between them.

Tables were used to indicate the degree of compatibility of high school programs selected with occupational preferences assigned to a seven category scale developed by Blishen.

CHAPTER II

REVIEW OF THE LITERATURE

Organization of the Chapter

The review of the literature pertinent to this study was initiated by reference to research sources including Psychological Abstracts, Education Index, Dissertation Abstracts, Research in Education, listings of Doctoral and Masters' thesis and pertinent material catalogued at the University of Alberta libraries.

This review included the examination of general theories of occupational choice, studies of specific variables related to educational and occupational choices and preferences, and studies of the influence of the prestige factor as it related to occupational choices. The sequence described above determined the format of the chapter.

Theories of Occupational Choice

A variety of theories of occupational choice have been proposed since Frank Parsons first established the Vocation Bureau in Boston in 1908. Jones (1945), indicated that Parsons attempted to match job requirements with an individual's abilities. Since then, there has been a change in emphasis from that of a single choice to that of a series of choices or decisions over a period of time; from an event to a process. As well, there has been a large increase in

the number of variables studied that relate to this process.

Miller and Form (1951), emphasized the role that accident plays in determining the occupation of the majority of workers. The "accident of birth" defined boundaries which enclose educational and occupational opportunities and expectations. Ginzberg et al. (1963), affirmed that it would be a waste of time to study occupational choice if it were primarily an accidental process. They maintained that these choices could only be understood in terms of a developmental process in which past behaviour exercised the major influence upon present and future decisions. They felt that a series of decisions take place over seven or more years during which an individual passes through three stages which are termed the Fantasy, Tentative, and Realistic stages. For them, occupational choice was an irreversible decision which led from subjective considerations of interests, values, and capacities in the Fantasy stage through confrontation with reality aspects during the Tentative stage and to a compromise in the Realistic period.

Super (1957, 1960), has carried out a great deal of work exploring the concept of vocational development and vocational maturity. He classified vocational life stages after Buehler as the Growth, Exploratory, Establishment, Maintenance and Decline stages. Like Ginzberg, he divided the Exploratory stage into a Fantasy, Tentative, and Realistic stage. In the Career Pattern Study (1960), he and his colleagues questioned the ability of ninth grade students

to make an occupational choice. He believed that this period in a student's life is a time of "planfulness" and affirmed that education should not require the making of definitive, directional, educational, and occupational choices in the ninth grade.

Holland (1966), subscribed to the theory that the choice of a vocation is an expression of personality. He maintained that interest inventories were personality inventories. Vocational choice was one of many expressions of personality. Certain personality types would attempt to seek satisfaction by selecting occupations in congruent environments. In a later work, Holland and Lutz (1968), stated that researchers and counsellors should pay more attention to the expressed vocational choices and use interest inventories with discrimination.

Roe (1962), used Maslow's hierarchy of basic needs as the foundation of her theory of vocational choice. She noted that nothing is potentially so capable of giving some satisfaction at all levels of basic needs as is the occupation. She developed a scheme for classifying occupations into each of two sets of categories, Groups and Levels. Her eight Groups indicated the primary focus, (related to interests), of the occupation. The six Levels indicated the degree of personal autonomy and level of skill and training required.

Hoppock (1963), noted the existence of conflicting theories, and suggested the possibility of there being some

truth in all of them. He stated that Tyler had started to emphasize the process rather than theory and that Tiedman and O'Hara disclaimed any theory of occupational choice. Hoppock himself subscribed to a composite theory and he stressed the need for occupational information. He believed that one theory may explain the behaviour of some persons while another theory is needed to explain the behaviour of others. In making occupational choices, some individuals would consider only one or two factors while others would make use of many in reaching their decisions.

Studies of Specific Influences

A great deal of research has been carried out in order to determine the influence of one or more factors on occupational and educational choices. Goldman (1961), noted the proliferation of tests that have been developed in an attempt to improve the prediction of educational and occupational success.

Educational and Occupational Choices

Educational requirements listed by preparatory institutions, guidance branches, employers, and other agencies indicated the close ties between choice of curriculum and choice of career. Halpern and Norris (1968), Wurtz (1966), McDaniels (1968), and in Alberta, Ostashevski (1969), considered curriculum choices to be vocational choices. Halpern and Norris conducted a study with Grade X students in order

to discover how they made curricular decisions. They found that the students considered information about their abilities most important in making a choice. Then the students corroborated their decisions against their plans and interests. Personal values were of least concern to them in making these decisions.

Readiness to Make Occupational Choices

Wurtz (1966), in discussing vocational development, suggested that some Grade IX students might not be prepared to indicate an occupational preference. They were under pressure to indicate one, and this practice could account for some selection of inappropriate goals in terms of the disparities between preferences, abilities, interests, personality, and aptitude.

Super (1960), indicated that Grade IX boys did not appear to be mature enough to make occupational plans of a definitive nature.

McDaniels (1968), in contrast, felt that Grade IX students were mature enough to make definite occupational plans. He maintained that they lacked sufficient information about occupations to make the necessary choices about a career.

Achievement and Aptitude

The prediction of achievement has been the focus of attention of many researchers such as Cattell (1968), and Lavin (1965), in the United States and Black and Knowles

(1966), in Alberta. Many general and specific tests and batteries have been developed to measure ability and aptitude and researchers have related them to other performance measures, (Cronbach, 1960; Anastasi, 1961; Super and Crites, 1962). Cattell and Butcher (1968), issued the caution that selection indices for certain types of schooling should be related to the range of careers for which the schooling prepares the students and not just success in the schooling.

Flanagan's Project Talent (1964), studied over 400,000 American high school students. The project was concerned with the identification of talent, the best measures to do this, and the factors influencing vocational choice, aptitude, achievement, interests, motivations and preferences. Flanagan found that the talented student could be identified by four measures: general academic aptitude, quantitative aptitude, technical aptitude, and scientific aptitude. He found a greater difference in the test results within the same grade than between different grades. Little difference on the test scores between boys and girls was found. With respect to aptitude and aspirations, it was found that 16% of the boys and 12% of the girls in the lowest 10% aptitude level aspired to a college education. Forty-eight percent of the boys and 40% of the girls aspired to professional and technical careers although United States census data indicated that only 15% of the males and 12% of the females in the American labour force were in those occupational classifications.

Cronbach (1960), placed tests which measure general mental ability, intelligence, and scholastic aptitude in one category and agreed that they measure the same attributes as achievement tests do but two distinctions were made by him. Scholastic aptitude or general mental ability tests were not as dependent on particular school experiences as achievement tests were and were more useful predictors of success in certain occupations. He stated that the composite score for the Verbal and Numerical Reasoning tests of the Differential Aptitude Battery served the same purpose as the group tests of general mental ability or scholastic aptitude in common use.

Bowen (1968), in a study of 389 Grade IX students in three schools in Oklahoma, found correlations which averaged .72 between a composite score for Verbal and Numerical Reasoning and the average of academic subjects.

O'Hara (1966), in a study of 308 Grade IX boys in Boston, found correlations of .42 between Numerical Reasoning and yearly academic average and .41 between Verbal Reasoning and academic average.

Lavin (1965), in reviewing a number of studies of intellectual predictors of high school achievement, noted that the average correlation between intellectual predictor and achievement criteria studied was .60, and in studies by Jacobs and Nason was higher for females. He referred to a study by Jackson which indicated that females had higher academic performance than males.

Achievement and Occupational Preferences

Super (1960), found a correlation of .31 between ninth grade boys' level of occupational preference and academic achievement in the Career Pattern Study. Flanagan found that the low achievement group has aspirations towards high level occupations.

Aptitude and Occupational Preferences

Densley (1967), in a study involving 143 Grade XI students in three Ohio communities, found that high aptitude students had occupational preferences that were more compatible with their aptitude than did students of average scholastic aptitude.

Consistency of Preferences

Osipow and Gold (1967), conducted a study with freshmen at Pennsylvania State University. They used Roe's classification of occupations to determine whether the first occupational preferences of the students were consistent or inconsistent with their second occupational preference. The two preferences were considered to be consistent if both were in the same or adjacent occupational category. Osipow and Gold found that students with consistent first and second preferences had higher scores on the Scholastic Aptitude Test than students with inconsistent preferences.

In an earlier study with freshmen at Pennsylvania State University, Osipow (1966), found that female students

were more consistent in their occupational preferences than males.

Kreutz (1968), conducted a study among Alberta high school students to determine to what extent they were following their educational and occupational plans after one year. She found that females followed their plans to a greater extent than males. Students in the Business Education program realized their plans more often than did those in other programs, followed by those in the Vocational, Matriculation, and General programs.

Interests

Clark (1961) concentrated on the measurement of interests of non-professional men, noting the neglect to measure the interests of the majority of high school students. He attributed this shortcoming to the fact that the colleges and universities employ a much higher ratio of counsellors and psychologists than the high schools. He felt that the measurement of interests had yielded little information about the way vocational interests developed and little insight into the nature of the world of work. Fleming (1959), in the Atkinson study among 2500 Ontario Grade XII and Grade XIII students, concluded that the Kuder Preference Record; Vocational, did not assist students in choosing from broadly defined educational or occupational alternatives.

Prestige and Its Relationship to Occupational Choice

Blocker and Anthony (1968), examined the role of a prestige factor in the selection of occupations by students in three community colleges. They found that students in the higher level program, the college transfer program, were more concerned with the prestige of occupations than students in technical and semi-professional programs. They found a correlation of .39 between the students level of occupational aspiration and the students' emphasis of the prestige of the occupation and found no significant relationship between social status of students and prestige of the occupation selected. They noted that few studies have attempted to determine the degree of emphasis of the prestige factor, although many studies have indicated that students at all levels of education tended to choose occupations with an awareness of the prestige attached to it.

Hakel, Hollmann, and Dunnette (1968), replicated a study by Counts of the prestige of occupations and its influence on vocational choice. Deeg and Paterson had repeated Counts' study in 1947. The correlations between the rankings made by high school and college students over a forty-two year period were in the .90 range. Counts felt that students looked forward to the professional occupations because they recognized the prestige attached to them.

Stefflre, Resinkoff, and Lezotte (1968), conducted a study with graduate students using an instrument designed to determine if the prestige of an occupation varied with

the sex of the worker. The results were negative and the researchers said that the instrument used to measure prestige might have to be more subtle, with a hidden purpose, than the one they used.

Gribbons and Lohnes (1965), outlined the results of a five year study with 111 boys and girls from Grade VIII to grade XII. They studied shifts in the students' vocational values and found a fair degree of constancy (Rho's of .46 for girls and .68 for boys between the eighth to twelfth grade values). They found that the boys differed from the girls in their emphasis on salary and prestige in contrast to the girls attention to personal contact and social service aspects of careers.

Slocum and Bowles (1968), compared the attractiveness of 26 occupations with prestige rankings among 3100 State of Washington high school students. They found that only 29% of the attractiveness of the occupations could be accounted for by the prestige factor. They noted that most studies required that the student give only one occupational preference although a study by Haller and Miller indicated that students aspired to a range of occupations.

Montesano and Geist (1964), found that prestige was not a factor in selecting an occupation among 60 California Grade IX boys. The important factors were found to be interests and need satisfaction.

In Alberta, Kelland (1959), Strong (1953), and Carran (1961), studied the prestige factor as it related to the

vocational aspirations, and high school programs of Alberta students. Strong studied the relationship of the level of vocational aspiration of 1000 Edmonton high school students to the social class position of the fathers of the students. He found these factors to be highly related. He used the occupation of the fathers as a measure of their social class position.

Kelland conducted a study of the prestige of educational programs in three large Edmonton high schools. He found that the Matriculation program was given the highest rating by parents, teachers, and students. The Business Education program for girls was given the second highest prestige rating by the three groups. Shop, General, and Business programs for boys showed considerable variation among the ranking groups.

Carran carried out a study in three Edmonton high schools to determine the attitude towards Industrial Arts courses by Grade XI boys, teachers, administrators, and parents of the boys in Grade XI. The attitude towards these courses were generally indifference. The Grade XI boys enrolled in Industrial Arts courses held a favourable attitude towards these courses.

Clack (1968) carried out a study of occupational prestige and vocational choice with 107 Grade XII and 104 Grade X Indiana students. He compared their rankings of occupations with the North-Hatt occupational prestige scale, with "fantasy" choices, with "reality" choices, and with

their own prestige rating of 28 of the North-Hatt occupations.

For the Grade X students, Clack found correlations of .95 between the North-Hatt and the students' prestige rating of occupations; of .76 between "fantasy" and prestige; .57 for "fantasy" and "reality"; .15 for "reality" and prestige; and for the combination of "fantasy" and prestige, the correlation with "reality" was .71.

Clack found correlations of .94 between money earned and prestige; .97 between the education required and the prestige of an occupation; and .16 and .24 between money and "reality" and education and "reality" choices. Clack interpreted these findings to mean that students preferred lower prestige and income occupations either because of an awareness of their abilities and interests or because they were not willing to invest in the additional education required for the higher prestige occupations.

Stephenson (1957) conducted a study of the realism of occupational choice of 1000 Grade IX students in four medium size, semi-industrialized New Jersey communities. He concluded from previous studies that a large number of pre-work-age people made no occupational choice, the choices made are from the upper range of occupations, and that the distribution of choices was quite different from local and national opportunities or the fathers' occupation. He questioned the research techniques used in previous studies and the interpretations of the findings. He believed that it was appropriate that some do not make early occupational choices

and that they are made from a narrow range because only a narrow range was available to the person. He noted that only occupational specialists were familiar with a wide range of occupations. He felt that the limitations of choices to the upper range of available occupations reflected their high prestige. Rather than being unrealistic choices, Stephenson maintained that they were the opposite and reflect the American value of striving to achieve a high occupational goal. He felt that we should distinguish between occupational aspirations and occupational plans.

Stephenson studied Grade IX students because he felt that their interests had become stabilized, there was less fantasy concerning occupational choice, and because, in this grade, curriculum decisions about high school had to be made. He found considerable differences between plans and aspirations. The distribution of occupational plans reflected the national occupational structure to a far greater extent than the aspirations. The plans are supported by curriculum choices and so Stephenson concluded that youth are more realistic in their educational and occupational plans than was assumed.

Stephenson cautioned researchers in the field of occupational choice to be careful as to the manner in which they pose questions to the students in order that the students may distinguish between plans and aspirations. Contradiction in research findings may have resulted from failure to make this distinction, either by the students or by the researcher

in his interpretation or by both.

Lavin (1965), noted that the socioeconomic influence probably functioned as a summative factor representing the effect of intelligence, personality, interests, values, and other variables on achievement. In a similar fashion, the prestige of occupations, although reflecting a variety of components, can be accurately rated by means of income and years of schooling according to Blishen. He noted, (1958), that as many as nineteen factors were studied by Kahl and Davis and others, yet these two variables provided the best index of the subjective evaluation of an occupation or its prestige.

Limitations of Previous Studies

In the literature reviewed by the author, it was found that few studies in North America had been carried out to determine the influence of the prestige of occupations on the occupational choice of Grade IX students. Of the studies examined, the form of the questions or methods used, the small samples involved, the special nature of the sample, the small number of occupations involved, or other factors had intervened to make even modest generalizations hazardous.

In most studies, the conditions were not specified so that comparisons could be made of the relative opportunity of the testees to know about occupations, the choice process, and the relationship of high school programs to careers.

Many contradictions about vocational choice topics were

found in the literature. The more significant ones were those dealing with the maturity of students at the Grade IX level, the degree of consistency of student preferences, and the relative influence of prestige on these preferences as compared with other factors such as sex, aptitude and achievement.

Summary of the Literature Review

The review of the literature indicated general agreement by the majority of theorists that occupational choice was a process made up of a series of decisions taking place over a period of time in a person's life.

There was disagreement as to the degree of maturity of Grade IX students and their ability to make definitive, realistic occupational choices.

A significant feature of the review was the number and variety of factors related to occupational and educational choice that were examined in different studies.

The studies surveyed indicated lack of agreement by researchers concerning the importance of prestige in occupational choice.

All the research examined indicated that both children and adults were almost identical in the rankings of occupations on a prestige basis.

CHAPTER III

METHODOLOGY

Introduction

The description of the sample and population, and information about the locale and time of the study have been included in this chapter. The method used to select the sample, the collection and treatment of data have been outlined. The instruments used and the statistical technique and processing of the data also have been described in this chapter.

Sample and Population

The sample consisted of the total, (158), Grade IX group, boys and girls, in Montrose Junior High School in Grande Prairie in May, 1965. The students were all residents of the city and were enrolled in Literature, Language, Social Studies, Science, Mathematics, Health and Physical Education, and Guidance courses. Available options were Oral French, Industrial Arts, and Music. The Guidance course was taught to each student in his or her particular class, twice a week, once by the principal, and one by the author in his capacity as counsellor.

As mentioned earlier, the performance of Grande Prairie students in Departmental Examinations in both Grade IX and XII, indicated equal achievement to other Alberta students

and the numbers enrolling in post secondary institutions were comparable in relative numbers to numbers from other Alberta centers.

At the time the study began, Grande Prairie was a city of 12,000 that catered to farming, logging, and oil exploration activities in the area. The main industry was a plywood plant and the usual commercial, industrial, and service establishments were located in the city.

A television transmitter, radio station, and daily newspaper provided public communication. The city had two hospitals, the usual recreational and cultural facilities, and was served by air, railway, and highway links.

The county and regional provincial government offices were located in the city as well as a county junior high school and three separate schools. The public school system consisted of three elementary schools, Montrose Junior High School and two senior high schools. At the time of the study, one high school provided matriculation and general programs while business and vocational programs were offered in the other high school one mile away.

Data Collection

The data were gathered from pre-registration forms completed by the 158 students in May, 1965. The Differential Aptitude Test Battery was administered in May prior to pre-registration and the Kuder Preference Record (Vocational) was given early in the Fall for motivational purposes.

Weekly discussions about high school program selection, occupations, and related topics were carried out with the students throughout the year. The students completed the forms while awaiting their turn to discuss their high school programs and the pre-registration material on an individual basis. Each student's record was available in order to ensure the accuracy of the completed form.

The data used consisted of Easter examination scores for Language, Literature, Social Studies, Mathematics, and Science, scores for Verbal and Numerical Reasoning from the Differential Battery, three occupational preferences, and the high school program selected.

Instruments and Treatment of Data

The Differential Aptitude test scores for Verbal and Numerical Reasoning were combined to provide a measure of scholastic aptitude. The authors of the tests, Bennett, Seashore, and Wesman (1959), provided reliability coefficients based on the Spearman-Brown formula ranging from .82 to .89 for 486 Grade IX boys and girls. They listed validity coefficients of correlation ranging from .38 to .86 with intelligence tests including the Henmon-Nelson, A.C.E., Otis and the Ohio State tests. Coefficients ranging from .71 to .79 were reported for combined Verbal and Numerical Reasoning scores with a variety of ability and achievement measures over a period of years.

The tests, according to the publishers' manual, were

developed for use in the educational and vocational counselling of junior and senior high school students.

The Blishen Scale (1958), was constructed solely to reflect the prestige ranking of the occupations it included. Blishen gathered his data from 1951 Canada census statistics. He computed standard scores for income and years of schooling and combined them. The 343 combined scores were arbitrarily divided into seven classes according to their prestige. Separate computations for each sex were carried out except where the frequency for one sex was less than one-tenth of the opposite one, in these cases the data were combined. The scores ranged from 32.0 to 90.0. Blishen compared his prestige classification of occupations to studies carried out by Tuckman in Canada and to the North-Hatt, Warner, Kahl and Davis and Inkeles and Rossi studies. The majority of the correlations between the different classifications of occupations were in the .90 range.

The three occupational preferences of each student in the present study were assigned scores according to this scale.

The arithmetic mean for each student's scores on the Easter examinations for Language, Literature, Social Studies, Mathematics, and Science was calculated and used as the measure of academic achievement.

Processing of Data

The data were coded and transferred to IBM cards and processed with the University IBM 360/67 computer using the

Desto 2 program documented by W. Muir and D. Precht. The output provided means, standard deviations, Pearson product-moment correlations, values of "t" and the probability of "p" associated with "t".

Guilford (1965), stated that Pearson product-moment correlations provide a good indication of the relationship between variables and this statistic was used for this reason. He further stated that this statistic assumes a linear relationship between variables but that the majority of variables in psychology can be treated as such with only slight error resulting when the assumption of linearity is not totally justified.

The use of non-parametric tests would result in the loss of information. The use of more complex correlation techniques would require a criterion, and for this study the criterion would be the high school program which cannot be treated as equal interval data. Since this was not a predictive study, the use of such a procedure was unwarranted.

The data were processed in three steps to test the first six hypotheses. First, relationships between achievement, aptitude, and occupational preferences were calculated for the entire 158 cases. Secondly, the total group was separated on the basis of sex and relationships again determined. Thirdly, using a method devised by Kelly (1939), and used by Flanagan, Guilford, and Johnson, the total group was divided into the upper and lower 27 percent and the middle 46 percent on the basis of achievement and the relationships were again calcu-

lated. Finally, the total group was divided on the basis of the high school program selected and the procedure was repeated.

To test whether the obtained correlations were statistically different from 0, the values of "t" were computed and compared with tables of critical values of "t" (Ferguson, 1953).

To test whether two correlations, between the same two variables, between different or independent sub-groups were significantly different from each other, the correlations or "r's" were transformed to Fishers z_r 's and the ratio z was calculated. The derived z's were compared for significance with tables of unit-normal-deviates (Ferguson, 1953).

To test whether two correlation coefficients between pairs of different variables, for the same, or correlated sample, were significantly different from each other, values of "t" were computed and compared for significance with tables of critical values of "t" (Ferguson, 1953).

The relative numbers of Grande Prairie students preferring occupations in the seven Blishen categories were first compared with the numbers of Albertan and then the Canadian students preferences in the Career Decisions Project using the Chi-square statistic.

The same method was used to compare high school programs selected by the Grande Prairie group with the Albertan group. This technique is a method used to compare the frequency distribution of one sample with another in terms of a common factor (Ferguson, 1953).

The .05 level of significance was set a priori for rejection of all hypotheses tested in the study.

CHAPTER IV

FINDINGS AND DISCUSSION

Introduction

Chapter IV includes the statistical findings of the study in the form of tables. Each hypothesis is stated and discussed and highlights from the tables are noted. Results of the tests of significance applied to the findings are provided and statements concerning rejection of the hypotheses are made.

Hypothesis 1

There is no relationship between academic achievement and scholastic aptitude.

Pearson correlations were used as a measure of the relationship between school achievement, (Easter marks), and scholastic aptitude (Verbal and Numerical Reasoning scores).

The relationship between these variables was employed as a means of expressing school achievement in terms of standardized test scores. This relationship is important, as are others in the study, since it could account for relationships between either achievement or aptitude and the variables examined in the study.

Table I provides correlations for all groups and "t" values to indicate the significance of these correlations.

All correlation coefficients were significantly differ-

TABLE 1

CORRELATIONS (r), BETWEEN ACHIEVEMENT AND
APTITUDE FOR TOTAL GROUP AND SUB-GROUPS

Group	N	r	df	t
Total	158	.75	156	14.26**
Males	75	.81	73	11.95**
Females	83	.69	81	8.51**
High Ach.	43	.39	41	2.68*
Middle Ach.	72	.29	70	2.51*
Low Ach.	43	.42	41	2.99**
Matric.	81	.55	79	5.90**
Business	22	.67	20	4.03**
General	24	.57	22	3.22**
Vocational	31	.77	29	6.41**

* = significant at .05 level

** = significant at .01 level

ent from 0 and the hypothesis was rejected.

All correlations were significant at the .01 level except those for High and Middle groups. Correlations for the High and Middle groups were significant at the .05 level.

For the students in this sample, there was a significant positive relationship between school achievement in Grade IX as measured by scores on Easter examinations and scholastic

aptitude as measured by the Numerical and Verbal Reasoning scores of the Differential Aptitude Battery.

Table 2 provides correlations between achievement and aptitude for sub-groups separated on the basis of sex, level of achievement, and program selected. Differences in the correlations for the groups are indicated by Normal Deviate values to establish if separation by this means affects the correlations.

There was no significant differences in the correlations for achievement and aptitude between the sub-groups separated on the basis of sex or level of achievement.

There were no significant differences in the correlations between the sub-groups separated on the basis of high school program selected except for the higher correlation for the students who selected the Vocational program as compared with those selecting the Matriculation program. The difference in correlations between the Vocational and Matriculation group was significant at the .05 level.

Hypothesis 2

There was no relationship between academic achievement and occupational preference.

Table 3 provides Pearson correlations for all groups

TABLE 2

DIFFERENCES IN CORRELATIONS FOR ACHIEVEMENT AND
APTITUDE BETWEEN SUB-GROUPS SEPARATED BY SEX,
LEVEL OF ACHIEVEMENT, AND PROGRAM SELECTED

		r(Correlations)		z(Normal Deviate)	
Sex	Male	.813	Female	.682	1.194
Level	High Ach.	.386	Middle	.287	.563
	High Ach.	.386	Low	.423	.197
	Middle Ach.	.287	Low	.423	.785
Program	Matric.	.553	Business	.670	.735
	Matric.	.553	General	.567	.077
	Matric.	.553	Vocational	.766	2.173*
	Business	.670	General	.567	.534
	Business	.670	Vocational	.766	.975
	General	.567	Vocational	.766	1.59

* = significant at .05 level

** = significant at .01 level

to indicate the relationships between academic achievement and occupational preference.

Correlation coefficients for the Total, Male, Female, and Matriculation groups were significant at the .01 level.

The coefficient for the Business group was significant at the .05 level. Coefficients for the High, Middle, Low,

TABLE 3

CORRELATIONS (r), BETWEEN ACHIEVEMENT AND OCCUPATIONAL PREFERENCE FOR TOTAL GROUP AND SUB-GROUPS

Group	N	r	df	t
Total	158	.57	156	8.20**
Males	75	.63	73	6.98**
Females	83	.42	81	4.16**
High Ach.	43	.19	41	1.22
Middle Ach.	72	.10	70	.87
Low Ach.	43	.21	41	1.38
Matric.	81	.40	79	3.84**
Business	22	.49	20	2.52*
General	24	.34	22	1.69
Vocational	31	.28	29	1.59

* = significant at .05 level

** = significant at .01 level

General, and Vocational groups were not significant.

The hypothesis that there is no relationship between academic achievement and occupational preference was partly rejected.

The effect of sex, level of achievement, and program selected on these correlations is shown in Table 4.

There were no significant differences in the correlation coefficients for achievement and occupational preference

TABLE 4

DIFFERENCES IN CORRELATIONS FOR ACHIEVEMENT AND
OCCUPATIONAL PREFERENCE BETWEEN SUB-GROUPS
SEPARATED BY SEX, LEVEL OF ACHIEVEMENT,
AND PROGRAM SELECTED

		r(Correlations)		z(Normal Deviates)	
Sex	Male	.633	Female	.420	1.84
Level	High Ach.	.187	Middle	.103	.433
	High Ach.	.187	Low	.211	.112
	Middle Ach.	.103	Low	.211	.558
Program	Matric.	.397	Business	.490	.449
	Matric.	.397	General	.339	.281
	Matric.	.284	Vocational	.491	.590
	Business	.491	General	.339	.581
	Business	.491	Vocational	.284	.824
	General	.339	Vocational	.284	.211

* = significant at .05 level

** = significant at .01 level

between the sub-groups separated on the basis of sex, level of achievement, or high school program selected.

Hypothesis 3

There is no relationship between scholastic aptitude

and occupational preference.

The relationship between aptitude and occupational preference is indicated by the correlations presented in Table 5.

Correlation coefficients between scholastic aptitude and occupational preferences for the Total, Male, Female, and Matriculation groups were significant at the .01 level.

TABLE 5

CORRELATIONS (r), BETWEEN APTITUDE AND OCCUPATIONAL PREFERENCE FOR TOTAL GROUP AND SUB-GROUPS

Group	N	r	df	t
Total	158	.56	156	8.41**
Males	75	.68	73	7.93**
Females	83	.38	81	3.75**
High Ach.	43	.38	41	2.66*
Middle Ach.	72	.29	70	2.55*
Low Ach.	43	.13	41	.86
Matric.	81	.49	79	5.05**
Business	22	.34	20	1.62
General	24	.40	22	2.02*
Vocational	31	.37	29	2.12*

* = significant at .05 level

** = significant at .01 level

Coefficients for the High, Middle, General and Vocational groups were significant at the .05 level. Coefficients for the Low and Business groups were not significant. The hypothesis that there is no relationship between scholastic aptitude and occupational preference for the sample as a whole was partly rejected. For the Low and Business groups, the hypothesis was not rejected.

Table 6 indicates the effect of separation by sex, level of achievement on correlations between scholastic aptitude and occupational preference.

From Table 6 it may be seen that the correlation between aptitude and occupational preference was significantly higher for the males as compared with the females in this sample at the .01 level.

There were no significantly different correlations between sub-groups separated on the basis of level of achievement or high school program selected.

Hypothesis 4

There is no relationship between level of achievement and consistency of occupational preferences.

The relationship between level of achievement and consistency of occupational preferences is indicated by the correlations in Table 7. The student's first occupational preference was deemed to be consistent with his or her second preference if correlations between these preferences were significantly different from 0 as indicated by values of "t" set at the .05 level.

TABLE 6

DIFFERENCE IN CORRELATIONS FOR APTITUDE AND
OCCUPATIONAL PREFERENCE BETWEEN SUB-GROUPS
SEPARATED BY SEX, LEVEL OF ACHIEVEMENT,
AND PROGRAM SELECTED

		r(Correlations)		z(Normal Deviates)	
Sex	Males	.680	Females	.385	2.604*
Level	High ACH.	.384	Middle	.292	.523
	High ACH.	.384	Low	.133	1.212
	Low ACH.	.292	Low	.133	.840
Program	Matric.	.494	Business	.340	.735
	Matric.	.494	General	.396	.500
	Matric.	.494	Vocational	.367	.713
	Business	.340	General	.396	.205
	Business	.340	Vocational	.367	.104
	General	.396	Vocational	.367	.112

* = significant at .05 level
** = significant at .01 level

Correlations between the first and second preferences for the High and Middle groups were significant at the .01 level and the .05 level for the Low group. There was a significant positive relationship between first and second occupational preferences (consistency of preferences), by students in this sample.

TABLE 7

CORRELATIONS (r), BETWEEN FIRST AND SECOND
OCCUPATIONAL PREFERENCE, (CONSISTENCY) FOR
SUB-GROUPS SEPARATED ON THE BASIS OF
LEVEL OF ACHIEVEMENT

Level	N	r	df	t
High Ach.	43	.595	41	4.74**
Middle Ach.	72	.360	70	3.22**
Low Ach.	43	.339	41	2.31*

* = significant at .05 level
** = significant at .01 level

TABLE 8

DIFFERENCES IN CORRELATIONS FOR FIRST AND SECOND
OCCUPATIONAL PREFERENCES (CONSISTENCY) BETWEEN
SUB-GROUPS SEPARATED ON THE BASIS OF
LEVEL OF ACHIEVEMENT

r(Correlations)		z(Normal Deviates)
High Ach. .595	Middle Ach. .360	1.55
High Ach. .595	Low Ach. .339	1.48
Medium Ach. .360	Low Ach. .339	1.21

* = significant at .05 level
** = significant at .01 level

Table 8 presents correlations between first and second occupational preferences (consistency) with corresponding Normal Deviates to indicate whether level of achievement influences the consistency of occupational preferences.

The obtained correlations were not significantly different from each other and the hypothesis was not rejected. Students in this sample, when separated into high, middle, and low achievement group, indicated equally consistent occupational preferences.

Hypothesis 5

There is no relationship between sex and consistency of occupational preferences.

Table 9 provides correlations between first and second occupational preferences with corresponding values of "t" to indicate whether the preferences are consistent.

TABLE 9
CORRELATIONS (r), BETWEEN FIRST AND SECOND
OCCUPATIONAL PREFERENCES, (CONSISTENCY),
FOR SUB-GROUP SEPARATED ON THE BASIS OF SEX

Sex	N	r	df	t
Male	75	.647	83	7.25**
Female	83	.536	81	5.71**

* = significant at .05 level

** = significant at .01 level

Both correlations were significantly different from 0 at the .01 level. There was a positive relationship between the first and second occupational preferences for both male and female groups.

Table 10 presents correlations between first and second occupational preferences as a measure of consistency of these preferences with corresponding Normal Deviates for the sample group separated on the basis of sex to indicate the effect of sex of the student on consistency of preference.

The obtained correlations were not significantly different from each other and the hypothesis was not rejected. The males and female groups in this sample indicated equally consistent occupational preferences.

TABLE 10
DIFFERENCES IN CORRELATIONS FOR FIRST AND SECOND
OCCUPATIONAL PREFERENCES, (CONSISTENCY), BETWEEN
SUB-GROUPS SEPARATED ON THE BASIS OF SEX

r(Correlations)		z(Normal Deviates)	
Male	.647	Female	1.02

* = significant at .05 level
** = significant at .01 level

Hypothesis 6

There is no relationship between high school program selected and consistency of occupational preferences.

Table 11 provides correlations between first and second occupational preferences for the sample group separated on the basis of high school program selected. The student's first occupational preference was deemed to be consistent with his or her second preference if correlations between these preferences were significantly different from 0 as indicated by values of "t" set at the .05 level.

TABLE 11

CORRELATIONS (r), BETWEEN FIRST AND SECOND
OCCUPATIONAL PREFERENCES, (CONSISTENCY),
FOR SUB-GROUPS SEPARATED ON THE BASIS OF
HIGH SCHOOL PROGRAM SELECTED

Program	N	r	df	t
Matric•	81	.61	79	6.91**
Business	22	-.14	20	-0.64
General	24	.38	22	1.92*
Vocational	31	.53	29	3.35**

* = significant at .05 level
** = significant at .01 level

The correlations between the first and second occupational preferences for the Matriculation and Vocational groups were significantly different from 0 at the .01 level, and at the .05 level for the General group. These groups were consistent in their preferences.

Table 12 presents correlations between first and second occupational preferences with corresponding Normal Deviates to indicate the difference in correlations resulting from the separation of the total group on the basis of high school program selected.

TABLE 12
DIFFERENCES IN CORRELATIONS FOR FIRST AND SECOND
OCCUPATIONAL PREFERENCES, (CONSISTENCY), BETWEEN
SUB-GROUPS SEPARATED ON THE BASIS OF HIGH
SCHOOL PROGRAM SELECTED

r(Correlations)				z(Normal Deviates)
Matric.	.614	Business	-.143	2.232*
Matric.	.614	General	.379	1.285
Matric	.614	Vocational	.529	.522
Business	-.143	General	.379	1.715
Business	-.143	Vocational	.529	2.466*
General	.379	Vocational	.529	.685

* = significant at .05 level

** = significant at .01 level

The correlations for both the Matriculation and Vocational groups were significantly higher at the .05 level than that of the Business group. The former two groups were more consistent in their preferences than the Business group. The hypothesis that there is no relationship between program selected and consistency of preferences was partly rejected.

There was no relationship between consistency or preferences and program selected for the remaining combinations of sub-groups, the Matriculation and General, Matriculation and Vocational, Business and General, or the General and Vocational groups.

Hypothesis 7

There is no difference between the relative numbers of Albertan students and the numbers of the sample who enroll in various high school programs.

The Chi-square statistic was used to test Hypothesis 7, whether the Grande Prairie sample selected high school programs in relative numbers that were representative of the numbers of Albertan high school students enrolled in different high school programs.

The results of this application of Chi-square are provided in Table 13.

The data for the Albertan group were obtained from Career Decisions Project, (1967), tables. The Matriculation-Technical category was combined with the Technical

TABLE 13

COMPARISON OF RELATIVE NUMBERS OF ALBERTAN
STUDENTS WITH SAMPLE SELECTING VARIOUS HIGH
SCHOOL PROGRAMS USING CHI-SQUARE

Program	Alberta(E)	Sample(O)	O-E	$\frac{(O-E)^2}{E}$
Matriculation	87	81	6	.41
Business	24	22	2	.16
General	38	24	14	5.15
Vocational	9	31	22	53.77
df = 3			$\chi^2 = 59.49^{**}$	

* = significant at the .05 level

** = significant at the .01 level

group for comparison with the sample Vocational group. The Matriculation-Business group was combined with the Business program.

The obtained value of Chi-square was significant at the .01 level and the hypothesis was rejected. The sample group selected various high school programs in quite different proportions than Albertan enrollments in these programs.

It must be noted that many Alberta schools do not offer a Technical or Vocational program.

Hypothesis 8

There is no difference in the categories of occupations preferred by the sample group from Albertan or Canadian students.

The Chi-square statistic was used to test Hypothesis 8 to determine if the Grande Prairie sample was different from Albertan students or different from Canadian students in terms of relative numbers preferring different occupations. The occupations were categorized according to Blishen (1958).

Table 14 provides the results of the comparison of the Grande Prairie sample with the Alberta group.

Table 15 provides the results of the comparison of the Grande Prairie sample with the Canadian group.

The obtained values of Chi-square for both the Albertan and Canadian groups were significant at the .01 level. The categories of occupational preferences of the sample group was quite different from the other groups and the hypothesis was rejected.

An examination of Table 14 revealed that the larger number of sample students who preferred Clerical and Sales and Craftsman and Production occupations accounted for the large differences from the Alberta sample. Otherwise, both groups would have been quite similar with respect to categories of occupational preferences.

Similarly, in Table 15, the largest portion of the difference between the groups was accounted for by the numbers of the sample group preferring Logging, Fishing, and Mining,

TABLE 14

COMPARISON OF ALBERTA AND SAMPLE PREFERENCES
OF OCCUPATIONAL CATEGORIES USING CHI-SQUARE

Occupational Category	Alberta Preferences (E)	Sample Preferences (O)	O-E	$\frac{(O-E)^2}{E}$
Managerial	0.3	0.0	.3	.30
Professional & Technical	85.9	69.0	16.9	3.32
Clerical & Sales	15.1	25.0	9.9	6.49
Service & Recreation	26.2	22.0	4.2	.67
Transportation & Communication	3.5	1.0	2.5	1.78
Farm & Farm Workers	6.8	2.0	4.8	3.47
Logging, Fishing & Mining	1.3	4.0	2.7	5.60
Craftsman & Pro- duction Workers	7.9	22.0	14.1	25.10
Labourers	0.1	0.0	.1	.10
No Occupation	10.9	13.0	2.1	.40
df = 9.			$\chi^2 = 47.23^{**}$	

* = significant at the .05 level
** = significant at the .01 level

TABLE 15

COMPARISONS OF CANADIAN AND SAMPLE PREFERENCES
OF OCCUPATIONAL CATEGORIES USING CHI-SQUARE

Occupational Category	Canadian Preferences (E)	Sample Preferences (O)	O-E	$\frac{(O-E)^2}{E}$
Managerial	.5	0.0	.5	.50
Professional & Technical	86.4	69.0	17.4	3.50
Clerical & Sales	16.1	25.0	8.9	4.92
Service & Recreation	22.4	22.0	.4	.007
Transportation & Communication	4.2	1.0	3.2	2.44
Farm & Farm Workers	2.7	2.0	.7	.18
Logging, Fishing & Mining	.6	4.0	3.4	19.26
Craftsman & Pro- duction Workers	12.0	22.0	10.0	8.33
Labourers	.1	0.0	.1	.10
No Occupation	12.8	13.0		.003
df = 9			$\chi^2 = 39.24^{**}$	

* = significant at .05 level
** = significant at .01 level

and Craftsman and Production categories. The relatively larger numbers of the sample group preferring Craftsman and Production occupations again might have been accounted for by the provision of a Vocational program for the Grande Prairie sample.

Hypothesis 9

The categories of occupations chosen by the sample group are incompatible with high school programs selected.

Table 16 provides a distribution of students in the sample by high school program selected and Blishen Occupational Preference categories. Table 17 provides the range of Blishen scores for each category.

In Table 16, categories of occupations preferred by the student were enclosed within the area of compatibility, (enclosed by dark lines), if a student, by virtue of education, experience, and effort could succeed and be willing to enter an occupation in that category.

On the basis of this scheme as an indication of compatibility, or the selection of an inappropriate program with respect to the preferred occupation or vice versa, seventeen students who selected the matriculation program chose inappropriate or incompatible occupations chiefly in category five. The majority of these students were in the lower achievement group and a number had not indicated an occupational preference so were assigned mean scores of 50.0 which placed them in category five.

The Business group made appropriate choices with only

TABLE 16

DISTRIBUTION OF STUDENTS IN SAMPLE BY HIGH SCHOOL

PROGRAM SELECTED AND OCCUPATIONAL PREFERENCE

CATEGORIES (BLISHEN) INDICATING COMPATIBILITY OF CHOICES

Blishen Categories and Samples Occupations	High School Program Selected and Mean Achievement of Group Selecting Program				
	Matriculation Mean-66	Business Mean-52	General Mean-46	Vocational Mean-43	Totals
Highest Level Professionals	(13)		(1)		14
Professionals Managers Nurses	(42)	(1)	(10)	(1)	54
Foremen Technicians Stenographers	(9)	(18)		(7)	34
Office Clerks Inspectors Photographer	(1)		(1)		2
Electrician Machine Operators	(14)	(1)	(8)	(20)	43
Sales Clerks Nurse's Aide Miner	(2)	(2)	(4)	(2)	10
Cook Janitor Fishermen				(1)	1
TOTALS	81	22	24	31	158

Note - Heavy black line encloses cells of compatible choices similar to Roe's (1962) scheme whereby contiguous cells are related.

Numbers in brackets represent numbers of students.

TABLE 17
RANGE OF BLISHEN OCCUPATIONAL SCORES
FOR EACH CATEGORY

Category	1	2	3	4	5	6	7
Scores	90.0-73.2	72.9-57.0	56.9-52.0	51.9-50.5	50.4-45.1	45.0-41.8	41.8-32.0

three having made inappropriate choices.

Of the eleven in the General group who made incompatible choices, seven were accounted for as students who selected nursing rather than nursing aide as their occupational preference. The higher educational requirements were pointed out to them yet they listed nursing as their first preference. In fact, the girls who listed nursing aide as their first preference, category six, usually listed nursing (registered nurse), as their second preference.

In the Vocational group, the seven students who made inappropriate choices were in fact, choosing correctly, technician type occupations. In this instance in particular, the compatible category scheme exhibited a weakness of incorrectly categorizing an occupation.

Of the remaining cases where inappropriate choices were made, an inspection of the choices confirmed this suspicion. For the most part, these students also listed first and second occupational preferences that were widely divergent in both level and content.

In the majority of cases of inappropriate choices, the student made inconsistent occupational choices. This practice could have been accounted for as the listing of an occupational aspiration and an occupational plan; the aspiration being a more prestigious occupation requiring a higher level of education.

For the most part, the students' choices were compatible and the hypothesis was rejected.

Table 18 provides an indication of the degree of compatibility of program and occupational preferences by students in the different programs.

TABLE 18
PROPORTIONS AND APPROXIMATE RATIOS OF
INCOMPATIBLE TO COMPATIBLE CHOICES
ACCORDING TO PROGRAM SELECTED

Program	Matriculation	Business	General	Vocational
Proportion*	17/64	3/19	11/13	8/23
Ratio**	1/4	1/6	1/1	1/3

* = numerator = incompatible choices
denominator = compatible choices

** = approximate ratios

Table 19 provides a summary of the relationships found between achievement, aptitude, first, second, and third occupational preferences for the total Grande Prairie group.

Table 20 provides a summary of the relationships found between Achievement and Aptitude, Achievement and First Occupational Preference, Aptitude and First Occupational Preference, and between the First and Second Occupational Preferences.

Tables 19 and 20 are included in the thesis as supplementary information and are located in the Appendix following Chapter V.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This study was carried out to determine the relationship of the prestige of occupations, scholastic aptitude, sex, and school achievement in the selection of high school programs and occupational preferences of a sample of Grade IX Alberta students. Previous studies indicated that Grade IX students made unrealistic and inappropriate choices of high school programs and occupations in terms of the opportunities available for them in the labour force, their aptitude, and school achievement. More information was needed about the process of program and occupational choice to ensure qualified manpower, to avoid waste of staff and facilities, and to prevent waste of time and effort by students.

The sample consisted of all Grade IX students, boys and girls, in Montrose Junior High School in Grande Prairie in May, 1965.

Pearson product-moment correlations were computed between measures of school achievement, scholastic aptitude, and occupational preferences. The measure of school achievement used was the arithmetic mean of teacher marks for each student in five compulsory academic courses. Scholastic aptitude was determined by combining scores for Verbal and Numerical Reasoning from the Differential Aptitude Battery.

Occupational preference scores were obtained by using a scale developed by Blishen to indicate the prestige aspect of occupations.

The degree of relationship between these variables for the total group and for the group separated on the basis of sex, level of achievement, and program selected was determined to ascertain their relative influence. In a similar manner, the consistency of occupational preferences of students in the total group and sub-groups was calculated.

Using the Chi-square staistic, comparisons were made between Canadian students in the Career Decisions Project and the sample group and between Albertan students and the sample group in terms of high school programs selected and occupational preferences.

The compatibility of program selected and occupational preference, or lack of it, for the sample group was indicated by means of a table of distribution of choices.

Findings

All correlations between Achievement, Aptitude and Occupational Preference for the Total, Male, Female, and Matriculation groups were significantly different from 0.

The correlations between achievement and aptitude for all groups were significant.

The correlation between achievement and aptitude was significantly higher for the Vocational group as compared to the Matriculation group.

The correlations between achievement and the first occupational preference were significant for the Total, Male, Female, and Matriculation groups but not for the General, Vocational, High, Middle, or Low groups.

The correlation between achievement and first preference was higher for males than females.

Correlations between Aptitude and the first occupational preference were significant for all groups except the Low, Business, and General groups.

Correlations between the first and second occupational preference (Consistency) were significant for all groups except for the Business group.

The high achievement group had more consistent first and second occupational preferences when compared to the low achieving group, but the difference was not significant.

The correlation between the first and second preference for the Matriculation and Vocational groups was higher than for the Business group.

Sex, level of achievement, or program selected had no influence on the correlations between variables in the majority of cases.

The only negative correlation obtained was $-.14$ between the first and second occupational preference for the Business group. In view of the very narrow range of scores of the preferences of these students, this was not unexpected.

It was found that the majority of students enrolled in educational programs that were appropriate in terms of the

education required by agencies and institutions for particular occupational categories. The exceptions were 50% of students enrolled in the General program who aspired to professional category occupations and 15% in the Matriculation program who preferred Craftsman type careers.

Conclusions

On the basis of this study, for this sample, it was concluded that:

1. School achievement as indicated by the arithmetic mean of five academic subjects was closely related to scholastic aptitude as measured with the Verbal and Numerical Reasoning tests of the Differential Aptitude Battery.
2. The findings indicated that for this group; sex, level of achievement, or high school program selected had no influence on the relationship between aptitude and achievement.
3. For the sample selected, there was a significant, positive, statistical relationship between school achievement and the first occupational preference. Students whose achievement was high preferred high prestige occupations. Sex, level of school achievement, or high school program selected had no influence on the relationship between achievement and occupational preference.

4. There was a significant, positive, statistical relationship between scholastic aptitude and first preference. The relationship was significantly higher for male students. Level of achievement or program selected had no influence.
5. The students selected were consistent in their first and second occupational preferences, that is, there was a high positive correlation between the first and second preference. Males were no more consistent than females and Matriculation and Vocational students were more consistent than students who selected the Business program. There was no significant difference in consistency between High, Middle, or Low achieving students.
6. The relative numbers of students selecting various high school programs were quite different from the numbers of Alberta students selecting these programs in the Career Decisions Project. More of the sample students selected the Vocational program and fewer the General program.
7. The occupational preferences of the sample group were quite different from the Alberta and Canadian group. More of the sample group selected occupations from the Clerical and Sales and Craftsman categories and fewer selected occupations from the Professional category.

8. In the majority of the cases, sex, level of school achievement, or high school program selected had little influence on these relationships. This group of students was relatively consistent in their occupational preferences. They were realistic in their selection of high school programs since they enrolled in programs that met the educational requirements demanded for their preferred occupation.
9. The finding that twice as many Albertan students selected the General Program and one-third the Vocational Program as compared to the Grande Prairie sample could be accounted for by the lack of vocational programs in many Albertan schools.
10. The preference for higher level occupations by the sample in greater numbers than labour force data seems to warrant, seems to indicate unrealistic preferences until we consider the increasing need for high level occupations and the decreasing demand for unskilled and semi-skilled employees.
11. Since in this study, occupational preferences were categorized on a prestige basis and students selected the occupation of high prestige, it follows that the prestige of occupations was a significant factor in the choice of occupations by students.

Implications and Recommendations

It is recommended that:

1. A similar study be conducted involving a broader segment of the Alberta Grade IX population.
Statistical treatment of data from a wider population will permit generalizations to be made on a broader basis with greater confidence.
2. It is further suggested that revisions of the Blishen scale be undertaken using 1961 and later, 1971 Canada Census data, to verify its accuracy or to correct for changes that might have occurred with the passage of time.
3. The results of this study indicated that students are looking toward the future in terms of various occupational levels. Therefore there is a need for education and manpower officials to provide accurate projections of occupational needs of the future and educational requirements for different levels within occupational categories.
4. It is suggested that the Blishen scale be used by students, counsellors, administrators, personnel and manpower officials in helping students select an occupation and to choose the appropriate educational program.
5. It is recommended that a series of longitudinal studies of the influence of the factors and variables involved in this study be carried out. The results of such studies could improve the educational and occupational choice process.

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APPENDIX

TABLE 19

PEARSON CORRELATIONS BETWEEN ACHIEVEMENT,
APTITUDE, FIRST, SECOND, AND THIRD OCCUPATIONAL
PREFERENCE FOR THE TOTAL GROUP

N = 158	Achievement	Aptitude	First P.	Second P.	Third P.
Achievement	1.00	.75**	.55**	.51**	.51**
Aptitude			.56**	.50**	.47**
First Pref.				.62**	.67**
Second P.					.74**

* = significant at the .05 level

** = significant at the .01 level

Note - Achievement and aptitude correlated very highly. Correlations between the three preferences were significant. Achievement and aptitude both correlated equally well with the first, second, and third occupational preference.

TABLE 20

SUMMARY OF PEARSON CORRELATIONS FOR ALL GROUPS

Group	Achievement and Aptitude	Achievement and First Preference	Aptitude and First Preference	First and Second Preference	N
Total	.75**	.55**	.56**	.62**	158
Sex					
Male	.81**	.63**	.68**	.65**	75
Female	.68**	.42**	.38**	.54**	83
Level					
High	.39*	.19	.38*	.59**	43
Middle	.29*	.10	.29*	.36**	72
Low	.42**	.21	.13	.33*	43
Program					
Matric	.55**	.39**	.49**	.61**	81
Business	.66**	.49*	.34	-.14	22
General	.57**	.33	.40*	.38*	24
Vocational	.77**	.28	.36*	.53**	31

* = significant at .05 level

** = significant at .01 level

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